



Magnet-Retained Cheek Plumpers in Complete Denture Prosthodontics: A Case Report

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Abstract

Facial esthetics play a crucial role in the overall success of complete denture therapy, especially in elderly patients with long-standing edentulism and associated soft-tissue collapse. Sunken cheeks due to loss of teeth, alveolar bone resorption, and reduced muscular tonicity often compromise facial appearance and patient confidence. This article presents a clinical case of a 71-year-old male patient rehabilitated with maxillary and mandibular complete dentures incorporating intraoral closed-faced magnet-retained cheek plumpers in the maxillary denture. The clinical and laboratory procedures are described, highlighting the esthetic and functional benefits of detachable cheek plumpers.

I. Introduction

Complete edentulism results not only in functional impairment but also in significant facial changes. Progressive alveolar ridge resorption, loss of vertical dimension, and reduced muscle support lead to hollowed cheeks and an aged facial appearance. Conventional complete dentures may not always provide adequate soft-tissue support, particularly in patients with severe tissue collapse.

Cheek plumpers are prosthetic adjuncts designed to restore cheek fullness by supporting the buccal musculature. They may be fabricated as detachable or non-detachable components and retained using mechanical attachments or magnets. Magnet-retained cheek plumpers offer advantages such as ease of placement, patient comfort, reduced bulk, and improved hygiene. This case report describes the use of closed-faced intraoral magnets to retain cheek plumpers in a maxillary complete denture.

II. Case Report

Patient History

A 71-year-old male patient reported to the Department of Prosthodontics with the chief complaint of missing teeth and difficulty in mastication. He had lost his teeth gradually over the past five years due to periodontal disease. The patient was particularly concerned about his sunken

cheeks and desired a prosthesis that would make his face appear fuller and healthier.

Clinical Examination

Extra-Oral Examination

- Sunken cheeks and hollowed mid-facial appearance
- Reduced facial support
- Decreased muscle tonicity associated with age



Intra-Oral Examination

- Completely edentulous maxillary and mandibular arches
- Presence of a flabby ridge in the anterior maxilla
- Healthy mucosa with adequate salivary flow

Treatment Plan

Considering the patient's esthetic concern and intra-oral findings, it was decided to fabricate:

- Maxillary and mandibular complete dentures
- Intraoral closed-faced magnet-retained cheek plumpers attached to the maxillary denture

The detachable design was selected to reduce prosthesis weight and allow easy insertion and removal.

Clinical Procedure

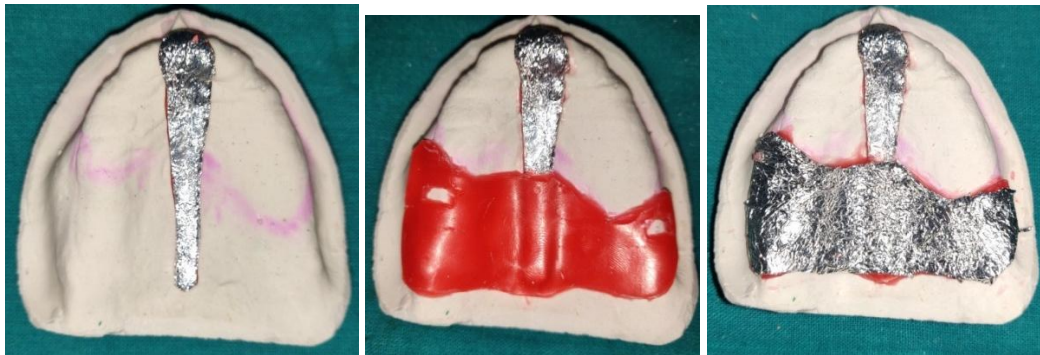
Primary Impressions

Primary impressions of the maxillary and mandibular arches were made using impression compound and irreversible hydrocolloid, respectively. Diagnostic casts were poured in dental plaster.



Spacer Design for Flabby Ridge

On the maxillary cast, a spacer was designed in the anterior region to accommodate the flabby ridge and minimize tissue displacement during final impression making.



Window Impression Technique

A custom tray with a window over the flabby ridge area was fabricated. Border molding was completed using low-fusing impression compound. The final impression was made using zinc oxide eugenol impression paste, and the flabby ridge area was recorded separately through the window using light-body elastomeric impression material.



Mandibular Border Molding and Final Impression

Border molding of the mandibular custom tray was performed using green stick compound, followed by a final impression with zinc oxide eugenol impression paste.



Jaw Relation and Try-In

Maxillomandibular relations were recorded at the established vertical dimension. Teeth arrangement was completed, and a wax try-in was carried out to evaluate esthetics, phonetics, and occlusion. Cheek fullness was assessed during try-in to determine the optimal position and size of the cheek plumpers.

Clinical and Laboratory Procedure for Fabrication of Cheek Plumpers

- Wax cheek plumpers were contoured on the buccal flange of the maxillary trial denture in the premolar-molar region.

- The size and contour were evaluated intraorally to ensure adequate cheek support without muscle interference.
- Closed-faced cobalt-samarium magnets were embedded—one part in the denture flange and the corresponding part in the cheek plumper.
- The cheek plumpers were fabricated separately and finished to allow easy magnetic attachment.





Denture Processing and Insertion

The dentures were processed using conventional heat-cured acrylic resin. After finishing and polishing, the cheek plumpers were attached magnetically to the maxillary denture. At insertion, proper fit, retention, stability, and comfort were evaluated.

Post-Insertion Evaluation

- Improved facial fullness and esthetics

- Enhanced patient confidence and satisfaction
- Ease of insertion and removal of cheek plumpers

Frontal and lateral views confirmed significant improvement in facial appearance with restored cheek support.



III. Discussion

Cheek plumpers are effective adjuncts in complete denture therapy for patients with sunken cheeks. Detachable cheek plumpers retained by magnets provide several advantages over conventional bulky dentures. Magnets allow passive retention, reduce stress on denture-bearing tissues, and improve patient compliance. However, careful case selection, precise magnet placement, and periodic follow-up are essential to prevent corrosion and loss of magnetic strength.

IV. Conclusion

Magnet-retained cheek plumpers offer a simple, non-invasive, and esthetically rewarding solution for restoring facial contours in completely edentulous patients. Incorporation of cheek plumpers in complete dentures can significantly

enhance facial appearance and overall patient satisfaction when conventional dentures alone are inadequate.

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